

PUBLIC HEALTH Bulletin



COUNTY OF ORANGE • HEALTH CARE AGENCY

VOLUME 50, NUMBER 3

Fall 2000

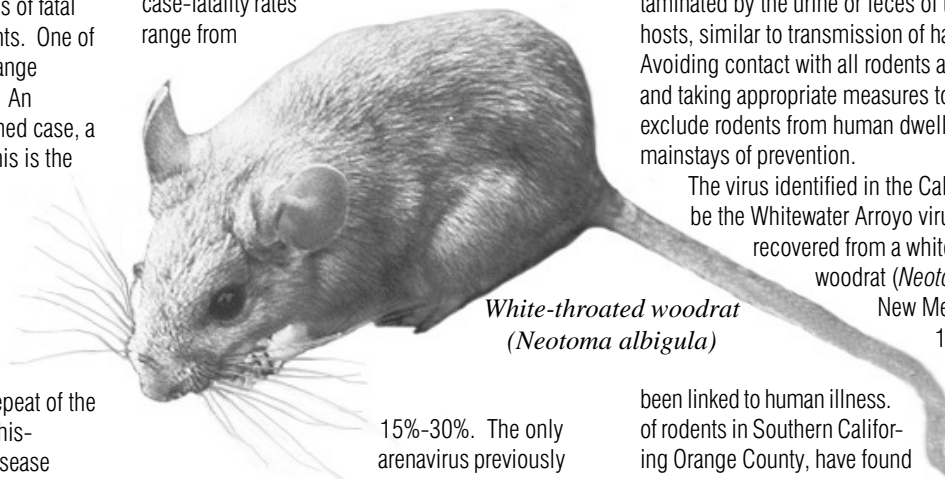
Arenavirus and Orange County—An Update

On August 3, 2000, the California Department of Health Services issued a press release that described one confirmed and two suspect cases of fatal arenavirus infection in California residents. One of the suspect cases was a 30 year-old Orange County woman who died in June 2000. An arenavirus was isolated from the confirmed case, a 14 year-old resident of the Bay Area. This is the first documented case of viral hemorrhagic fever caused by an arenavirus in North America. The diagnosis in the two suspect cases was based on a positive reverse transcriptase polymerase chain reaction (PT-PCR) test. Continued attempts to isolate virus from the Orange County case failed, a repeat of the PT-PCR test was negative, and immunohistochemical testing by the Centers for Disease Control and Prevention (CDC) was negative. Researchers subsequently concluded that the Orange County case most likely did not have an arenavirus infection.

Despite the finding that the Orange County case most likely did not have arenavirus infection, the fact that a confirmed case has occurred in California means that physicians should become familiar with arenaviruses.

Arenaviruses are recognized agents of viral

hemorrhagic fever in parts of Africa (e.g., Lassa virus) and South America (e.g., Junin virus, the agent of Argentine hemorrhagic fever). Reported case-fatality rates range from



White-throated woodrat
(*Neotoma albigula*)

15%-30%. The only arenavirus previously recognized to cause illness in North America is lymphocytic choriomeningitis virus, a cause of aseptic meningitis.

Each strain of arenavirus is associated with a specific rodent reservoir. Arenaviruses are transmitted through ingestion or inhalation of materials contaminated by the urine or feces of their rodent hosts, similar to transmission of hantavirus. Avoiding contact with all rodents and their excreta and taking appropriate measures to eliminate and exclude rodents from human dwellings are the mainstays of prevention.

The virus identified in the California case may be the Whitewater Arroyo virus, which was recovered from a white-throated woodrat (*Neotoma albigula*) in New Mexico in the early 1990s but has not previously been linked to human illness. Serosurveys of rodents in Southern California, including Orange County, have found reactive to arenavirus antigens, and virus closely related to the Whitewater Arroyo virus has

(Continued on Page 2)

Community Water Fluoridation

With the introduction in 1945 of the practice of adjusting fluoride levels in community water systems, the number of people with access to water with dentally significant levels of fluoride (0.7 parts per million or higher) has increased steadily to approximately 60 percent of the total U.S. population. Fluoridation of drinking water is considered one of the top achievements in Public Health during the 20th century.

Fluoridation of community drinking water is a major factor responsible for the decline in dental caries (tooth decay) during the second half of the 20th century. Dental caries is an infectious, communicable, multifactorial disease in which bacteria dissolve the enamel surface of a tooth. Unchecked, the bacteria may penetrate the under-

lying dentin and progress into the soft pulp tissue. Dental caries can result in loss of the tooth structure and discomfort. Untreated caries can lead to incapacitating pain, a bacterial infection that leads to Pulpal necrosis, tooth extraction and loss of dental function, and may progress to an acute systemic infection. Recent research also links severe dental caries to preterm birth and low birth weight.

The effectiveness of fluoride in California's drinking water is obvious. In fact, 60 percent of Californians mistakenly believe that their water is already optimally fluoridated. Yet, California ranks 48th in the nation in terms of the percentage of its population served by optimally fluoridated water. This means that only 17 percent of Californians are benefiting from the most efficient and cost

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Anti-tobacco efforts: Enough Already?

Since 1965, the adult smoking rate has almost halved from 42% to 24.7% (1997). There have been impressive regulatory victories regionally and nationally including the declaration of tobacco smoke as a carcinogen and the subsequent enactment of Clean Indoor Air laws. A sizable tobacco settlement involving class action suits has been won in many states imposing huge penalties on the tobacco industry with the potential of significantly increased resources for further anti-tobacco programs. Is it time to direct our attention elsewhere?

You judge from these facts:

- Last year CDC reported that 34.8% of students in grades 9-12 smoked in the 30 days prior to survey.
- Most states have failed to meet the Healthy People 2000 goal of reducing smoking to 15%.
- Less than 5% of schools are using the major components of the CDC guidelines for school-based anti-tobacco programs.
- Only 15% of smokers seen by a physician in the past year were offered assistance with quitting. (Only 3% were given a follow-up appointment to address the problem).
- Despite recent tax increases, the U.S. lags behind most industrialized countries in both the absolute amount of cigarette tax and the percent of the cost of tobacco that goes to taxes.

Clearly, we have not reached our goals and the opportunities are great for further reduction in the smoking rate, using tried and true, evidence-based strategies. The recent Surgeon General's report on Tobacco has detailed six such strategies which continue to be the foundation of comprehensive community strategies to eliminate smoking:

1. Further increasing tobacco taxes
2. Implementation of the clinical guidelines for smoking prevention and cessation in the physicians office
3. Passing and enforcing Clean Indoor Air regulations
4. Strengthening warning labels on all tobacco products
5. School, community, and media-based activities
6. Other changes in the social environment (e.g. workplace policies and pharmacy sales).

Assuming we need to maintain and in some instances redouble our efforts in order to achieve the HP2010 goal of reducing the smoking in the

population to 12%, where will we get the "biggest bang for the buck"? We clearly need to continue our efforts to bombard the public with anti-smoking messages to offset the huge amounts of money still spent by the tobacco industry to promote tobacco products, and to work toward full implementation and enforcement of Clean Indoor Air laws and policy. However, I believe our best chances for achieving the HP2010 goal by the end of this decade will come from greatly increased efforts in three areas:

- Universal implementation of the CDC guidelines for school-based anti-tobacco programs in our schools
- Universal implementation of the AHRQ/CDC smoking cessation clinical guidelines in every physician's office
- Increase in tobacco taxes to effect a 50% increase in the price of all tobacco products. (Each 10% increase is expected to lower smoking rates by 3 to 5%).

I would urge all those in the community committed to achieving the HP2010 goal of reducing the smoking rate to 12% by the end of the decade to strengthen partnerships with the schools and health systems and to continue to educate and press policy makers toward the implementation of those strategies.



Mark Horton, MD, MSPH, is Deputy Agency Director and Public Health Officer of the County of Orange Health Care Agency

Arenavirus (Continued from Page 1)

been isolated from rodents in Orange County, Riverside and Los Angeles Counties.

Symptoms of arenavirus infection are non-specific. Initial symptoms may be relatively mild and can include fever, muscle aches, weakness, malaise and dizziness. These may be followed by hemorrhage, multi-organ system failure, shock and central nervous system involvement.

Ribavirin has been shown to have some benefit in patients with Lassa fever. There are reports suggesting that ribavirin may be effective in some of the South American hemorrhagic

Drug resistant gonorrhea brings travelers' warning

The California Department of Health Services has joined with The Centers for Disease Control and Prevention in issuing an alert regarding an increase in fluoroquinolone-resistant strains of gonorrhea.

The problem has been identified in Hawaii, where the level of resistance in strains tested increased from 1.4% in 1997 to 9.5% in 1999. Given the frequent travel between Hawaii and California, the CDC recommends that healthcare providers ask patients with gonorrhea if they or their sex partners could have acquired the disease in Hawaii, other Pacific Islands or Asia, where fluoroquinolone-resistant gonorrhea is common. If there is a possibility the disease was acquired in one of these areas, patients should be treated with cefixime or ceftriaxone, which are other drugs recommended for treating gonorrhea and to which no resistance has been reported.

STD clinics in Orange County, Long Beach, San Diego and San Francisco participate in the Gonococcal Isolate Surveillance Project. In California, the overall rate of fluoroquinolone-resistant gonorrhea is lower than the rate detected in Hawaii. However, in July and August 2000, five cases of fluoroquinolone-resistant gonorrhea were detected in Orange County. This compares to only one fluoroquinolone-resistant case detected in Orange County during the past five years.

In cases of gonorrhea treatment failure, clinicians should obtain a gonorrhea culture before retreatment with cefixime or ceftriaxone. Any isolates from the gonorrhea culture should be forwarded to the Public Health Laboratory for susceptibility testing. Suspected gonorrhea treatment failures should also be reported to the local STD Medical Director, Dr. Marina Ball at (714) 834-8376.

More information can be found at the Centers for Disease Control and Prevention web site at:

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm4937a1.htm>

fevers.

Please contact Communicable Disease Control & Epidemiology immediately at (714) 834-8180 if you have a patient with a severe febrile illness of unknown etiology after extensive evaluation who has significant respiratory distress, hepatitis, or hemorrhagic manifestations. We can facilitate testing for arenavirus and other pathogens in these cases.

Hildy Meyers, MD, is Medical Director for Communicable Disease Control and Epidemiology, County of Orange Health Care Agency

Hear! Hear! New infant screening program begins

California is in the process of implementing the Newborn Hearing Screening Program (NHSP) to ensure early diagnosis and treatment of hearing loss. Delays in diagnosis and treatment negatively affect the development of language and communications skills in children. The goals of the program are identification of hearing loss in newborns by three months of age and linkage with early intervention and diagnostic audiological services by six months of age. It is estimated that after full implementation, NHSP will annually identify 1,200 California infants with hearing loss.

NHSP establishes a comprehensive, coordinated system of early identification and provision of appropriate services for hearing loss. It accomplishes this by offering parents the opportunity to have their newborn babies screened at birth, prior to discharge from the hospital, and will monitor infants to ensure that appropriate follow-up testing and diagnostic evaluations are completed. It provides access to medical treatment and appropriate support and educational services by facilitating collaboration between agencies delivering early intervention services to infants and families. The four major components of NHSP are:

- An outreach and awareness campaign
- A screening program
- Geographically-based Hearing Coordination Centers (HCC's)
- A data system

The outreach and awareness campaign will be conducted by an independent contractor. Appropriate education materials for pregnant women, families of newborns and primary care providers will be developed along with a media campaign.

Screening will be offered to all newborns delivered at California Children's Services (CCS) approved hospitals, and to newborns who receive care in a CCS neonatal intensive care unit. By December 2002, nearly 200 CCS approved hospitals will have certified screening programs. This certification will allow the hospital to be reimbursed by the State for screening Medi-Cal eligible infants. When fully implemented, the program will screen approximately 400,000 infants annually, representing over 70% of all births in California.

The geographically-based Hearing Coordination Centers are a critical component. They will ensure the system operates effectively, that screening services are of high quality and that follow-up services are provided to babies failing hearing screenings. HCC's will assist hospitals in developing and implementing screening programs, certify hospitals as screening sites and monitor the performance of participating hospitals. They will ensure infants with abnormal screening results receive necessary follow-up services including re-screening, diagnostic evaluations, treatment and referral for needed early intervention services. The House Ear Institute in Los Angeles will serve as the HCC for Southern California.

NHSP's data system will be used by both hospitals and the HCC as a program management tool. Information will be consolidated into a centralized database at the California Department of Health Services.

Infants who meet referral guidelines following hearing screenings will be referred to CCS for authorization of diagnostic services at a CCS approved hearing center. Issuance of the authorization re-



quires only the receipt of a CCS Request for Services form, a CCS program application signed by the parent or legal guardian and a copy of the hearing screening results. Financial and residential eligibility are not required for these diagnostic services. If the diagnostic evaluation confirms a CCS eligible hearing loss, CCS financial and residential eligibility will need to be established for authorization of treatment services. If families fail to keep any appointments, HCC's will determine the need for a referral to Child Health and Disability Prevention program (CHDP), which will attempt to follow-up with the family. CHDP will also report the results of the follow-up effort to the HCC.

NHSP will provide a coordinated approach to identifying infants with hearing loss and linking their families with essential services to allow for optimal child development.

Linda B. Allbrandt is a Senior Public Health Nurse with California Children's Services, County of Orange Health Care Agency.

Fluoridation *(Continued from Page 1)*

effective way of preventing tooth decay. In Orange County, only individuals served by the Fountain Valley Water District are currently receiving optimal levels of fluoride in their water systems. This represents only about two percent of the County's population.

Fluoridated water in the recommended concentrations poses no health risks. Extensive research has been conducted on the safety of community water fluoridation. The American Dental Association, the U.S. Public Health Service, the National Institute of Dental Research, and independent university research has shown there is no scientific basis for doubting the medical safety, effectiveness and practicality of community water fluoridation as a public health measure for preventing tooth decay.

Countless studies indicate a 30 to 60 percent reduction in tooth decay in communities that

have optimally fluoridated water systems. The estimated cost of fluoridation is about 50 cents per person per year. A single dental filling costs between \$50 and \$100. For every dollar spent on fluoride, a savings of \$100 in dental care cost could be realized. Children of low-income families tend to have higher rates of dental disease than the general population. Fluoridated water is especially beneficial to children who suffer the most from dental disease. Fluoridation reduces the number of anxiety provoking visits to the dentist for fillings and other treatments that these children would have to endure. Furthermore, fluoride in drinking water provides life-long benefits in reducing dental disease.

One of the advantages of community water fluoridation as a disease prevention measure is that it does not require conscious behavior by individuals in order for them to realize benefits. Whether rich or poor, child or adult, simply drinking the water, or consuming beverages and food pre-

pared with fluoridated water provides the benefits.

Efforts to prevent water fluoridation are often associated with the issue of freedom of choice. However, many public health improvements have been achieved through measures mandated for the public good. Examples include chlorination of water, childhood immunizations, helmets for motorcycle riders and juvenile bicycle riders, restriction on smoking in public places, and motor vehicle safety belts. All of these measures restrict personal choice, but they have saved millions of lives, reduced disease rates, and saved millions of dollars each year in public health care costs. They have also added significantly to the quality of life and reduction of pain and suffering. Water fluoridation has the ability to do the same. Public health professionals support water fluoridation as the single most effective measure to prevent tooth decay and to improve oral health for a lifetime.

Len Foster is now serving as Director of Health for Monterey County, CA.

HEALTH CARE RESOURCES FOR ORANGE COUNTY CHILDREN

Prepared by County of Orange, California, Health Care Agency
Child Health and Disability Prevention (CHDP) Program
"All Orange County children should have a medical home."
Dr. Mark Horton, Director of Public Health/ Health Officer

	<i>Insurance-type programs: most kinds of care for well and sick children</i>					<i>Limited services: check-ups, shots & sick care for children</i>		
	Full Scope Medi-Cal	Healthy Families	Kaiser Permanente Cares for Kids Child Health Plan	California Kids	Access for Infants and Mothers AIM	Child Health & Disability Prevention Program CHDP	Public Health Clinics	Community Clinics
Who is eligible?	♥ Children with family income: Birth to 1 year – 0 to 200% 1 to 6 years – 0 to 133% 6 to 19 years – 0 to 100% FPL – see bottom of page. Young adults 19 to 21 years may be eligible. Must be US citizen / national or have satisfactory immigration status.	♥ Children with family income: Birth to 1 year – 200 to 250% 1 to 6 years – 133 to 250% 6 to 19 years – 100 to 250% FPL – see bottom of page. Must not be eligible for "no-cost" Medi-Cal or have other health insurance. Must provide proof of income & be US citizen or have satisfactory immigration status.	♥ Children birth to 19 years with family income between 250 to 300% FPL – see bottom of page. Must not be eligible for employer-subsidized coverage or any other public or private insurance. Must provide proof of income (pay stub and last filed income tax return).	♥ Children 2 to 19 years with family income between 0 to 250% FPL – see bottom of page. Must not be eligible for Medi-Cal or Healthy Families or have other health insurance. Must provide proof of income (pay stubs or income tax return or written declaration) and child's birth certificate.	♥ *Babies birth to 2 years only if mothers are enrolled in AIM during pregnancy, and family income is between 200 to 300% FPL – see bottom of page. *Mother must be less than 7½ months pregnant, uninsured or with maternity deductible over \$500, and not eligible for "no-cost" Medi-Cal.	♥ Children birth to 19 years with family income between 0 to 200% FPL – see bottom of page. Must live in California for preventive check-ups. Must live in Orange County for treatment services.	♥ Children birth to 19 years with family income between 0 to 200% FPL – see bottom of page. Must live in California for preventive check-ups. Must live in Orange County for treatment services.	♥ Many children can receive services at most of the clinics.
What services?	♥ Preventive check-ups, immunizations, sick care, specialty care, prescriptions, vision, mental health, substance abuse, lab, radiology, hospitalization and dental.	♥ Preventive check-ups, immunizations, sick care, specialty care, prescriptions, vision, mental health, substance abuse, lab, radiology, hospitalization and dental.	♥ Preventive check-ups, immunizations, sick care, specialty care, prescriptions, vision, mental health, substance abuse, lab, radiology and hospitalization.	♥ Preventive check-ups, immunizations, sick care, specialty care, prescriptions, mental health, substance abuse, dental and 24-hour advice nurse. ♥ No hospitalization or major surgeries.	♥ Preventive check-ups, immunizations, sick care, specialty care, prescriptions, and hospitalization.	♥ Preventive check-ups, immunizations. ♥ Treatment including prescriptions and referrals to specialists, dentists for conditions found during check-up.	♥ Preventive check-ups, immunizations, sick care (no emergencies). Treatment including prescriptions and referrals to specialists, dentists for conditions found during check-up.	♥ Preventive check-ups, immunizations and sick care available – depending on clinic.
What is the cost?	♥ No monthly cost, no co-payments.	♥ \$4-\$27 per family monthly, plus ♥ \$5 co-payment for some services.	♥ \$35 per child monthly (4 th child free) plus ♥ \$5 to \$10 for some services.	♥ Free for children below 200% FPL ♥ \$20-\$25 per child monthly (4 th child free) for children 200 to 250% FPL. ♥ \$25 application fee.	♥ 2% of family income – e.g. a family making \$30,000 a year will pay \$600 over one year. ♥ Second year – \$100 for the child and no other co-payments/deductibles.	♥ Free for check-ups, immunizations and some related treatment.	♥ Free for check-ups, immunizations and some related treatment. \$5 for sick care visits.	♥ Low or free. Depends on family income and clinic. Free application assistance for Healthy Families & Medi-Cal.
To apply:	Call (888) 747-1222 for ♥ Mail-in application ♥ For free local help in completing the application, call: (800) 660-4232	Call (888) 747-1222 for ♥ Mail-in application ♥ For free local help in completing the application, call: (800) 660-4232	Call (800) 255-5053 for ♥ Application and more information	Call (818) 461-1400 for ♥ Application and more information	Call (714) 564-0778 for ♥ Application and more information	Call (800) 564-8448 for information and referrals ♥ No application. Fill out a simple statement at the CHDP doctor's office.	Call (800) 914-4887 for appointments, times and locations Clinics are in: Anaheim, Buena Park, Costa Mesa, San Juan Capistrano, Santa Ana, Stanton, Huntington Beach, Orange	Call (800) 564-8448 for information and locations Clinics are in: Anaheim, Costa Mesa, Fullerton, Garden Grove, Huntington Beach, Laguna Beach, La Habra, Orange, San Juan Capistrano, Santa Ana

FPL = Income Level defined by the Federal Government. Examples of eligible income levels (before taxes) for a family of 4: 100% FPL = monthly income of \$1,421; 133% = \$1,889; 200% = \$2,842; 250% = \$3,552; 275% = \$3,907; 300% = \$4,263

Hepatitis E an increasing concern in United States

Hepatitis E virus (HEV) infection is an enterically transmitted form of hepatitis that is recognized as a major cause of infectious hepatitis in certain areas of the world. Until very recently, all cases reported from the United States had been identified only in persons who had traveled to areas where hepatitis E is endemic.

However, a case of hepatitis E was reported recently in a California man who had no history of travel outside the state during his exposure period¹, and two strains from humans in the U.S. have been isolated. In addition, there have been reports in the literature of an HEV strain in pigs in the Midwestern United States, antibody to hepatitis E in rodents in the U.S., and significant seroprevalence of antibody to HEV in blood donors in the U.S. What does all this mean?

Epidemiology of HEV infection

HEV occurs in outbreaks and as sporadic cases primarily in countries lacking adequate sanitation. Waterborne outbreaks are especially characteristic of HEV. Person-to-person transmission is surprisingly uncommon during outbreaks, with secondary attack rates in household members of 1% to 2%. Infection may be asymptomatic, cause mild symptoms without jaundice, or present with typical symptoms of hepatitis. The highest rates of clinical illness occur in young to

middle aged adults and in pregnant women. Fulminant disease occurs in less than 1% of cases; however, in pregnant women, especially those in the third trimester, case-fatality rates of 15-25% have been reported. It has been hypothesized that HEV has an animal reservoir, possibly swine in the U.S., and is a zoonotic disease.

Virology

Information to date indicates that there are at least three main strains of HEV. These are referred to as the Asian (or Burmese), Mexican, and swine strains. Nucleotide homology within these groups is greater than 90% while between strains it is approximately 75%.

The two U.S. human HEV strains that have been characterized genetically are most closely related to the U.S. swine strain.²

Serologic data

In humans, seroprevalence data from HEV-endemic areas ranges from 10-40%. In non-endemic areas where such studies have been done, seroprevalence is typically 1-5%. Serologic testing of rodents in the U.S. in a variety of geographic areas, including Orange County, has found antibody prevalence ranging from 4.5-90%. However, to date no HEV has been isolated in rodents. The interpretation of the rodent and non-endemic human data is unclear. Possible expla-

nations include: 1) testing of low prevalence populations resulting in a high percentage of falsely positive results; 2) subclinical infection; 3) cross-reactions with other antibodies; 4) poor performance characteristics of the test (e.g., poor specificity). Studies by the Centers for Disease Control and Prevention (CDC) of enzyme immunoassays in use by laboratories have found that there is very poor agreement among these tests and that seroprevalence data in non-endemic areas are unreliable.

What's Next?

In response to the recent identification of human cases of HEV disease that appear to have been acquired in the U.S. and the uncertainty about animal reservoirs of the virus, Orange County Public Health would like to test patients with acute hepatitis who test negative for hepatitis A, B and C and do not have other explanations for their illness (e.g., drug reaction). Please contact Communicable Disease Control and Epidemiology at (714) 834-8180 to arrange for testing, which will be free of charge.

By law, physicians are required to report all forms of viral hepatitis to local health departments. In Orange County, reports can be made by telephone ((714) 834-8180), fax ((714) 834-8196), or mail. Acute hepatitis A must be reported within one working day of identification. A reporting form (Confidential Morbidity Report) and the list of reportable diseases can be obtained from: <http://www.oc.ca.gov/hca/public/cdcerdi.htm> or by telephone at (714) 834-8180.

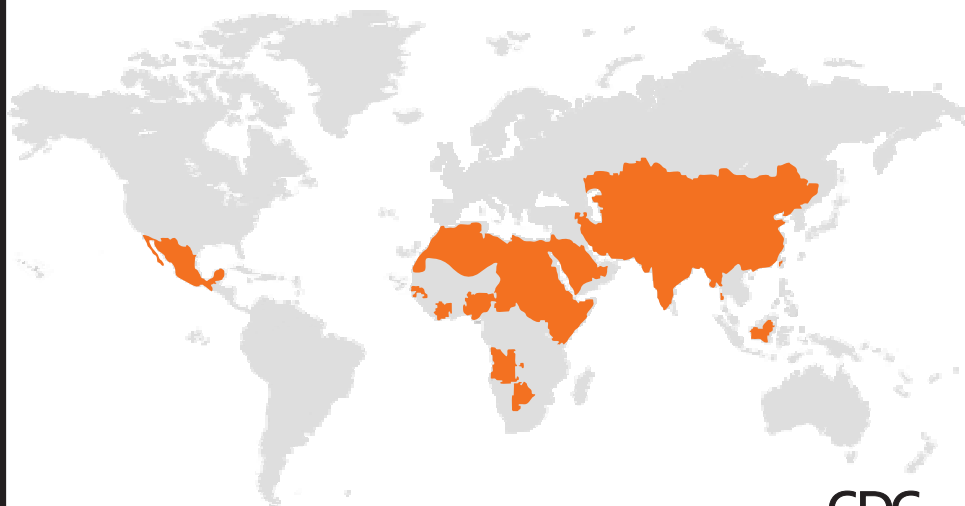
Hildy Meyers, MD, is Medical Director for Communicable Disease Control and Epidemiology, County of Orange Health Care Agency

¹ Tsang HF, Denison EK, Williams HV, et al. Acute Hepatitis E Infection Acquired in California. *Clinical Infectious Diseases* 2000;30:618-619.

² Meng X, Halbur PG, Shapiro MS, et al. Genetic and Experimental Evidence for Cross-Species Infection by Swine Hepatitis E virus. *J Virol* 1998;72(12):9714-9721.

Geographic Distribution of Hepatitis E

Outbreaks of Confirmed Infection in >25% of Sporadic Non-ABC Hepatitis



CDC

Hepatitis E Resources

General

Hepatitis Control Report
www.hepatitiscontrolreport.com

Centers for Disease Control and Prevention
www.cdc.gov/ncidod/diseases/hepatitis/index.htm

Hepatitis E

Aggarwar R, Krawczynski K. Hepatitis E: An overview and recent advances in clinical and laboratory research. *J of Gastroenterology and Hepatology* 2000; 15:9-20.

First through Third Quarters (Weeks 1-39)
Number of Cases by Year of Report

DISEASE	2000	1999	1998	1997
AIDS	228	219	220	222
AMEBIASIS	16	16	21	29
CAMPYLOBACTERIOSIS	253	178	223	328
CHLAMYDIA	3,742	3,825	2,626	2,492
CRYPTOSPORIDIOSIS	1	4	15	8
E-COLI O157:H7	28	7	8	5
FOOD POISONING OUTBREAKS	11	18	2	8
GIARDIASIS	183	184	210	215
GONOCOCCAL INFECTION	455	406	414	331
H-FLU, INVASIVE DISEASE	4	4	4	11
HANSEN'S DISEASE, LEPROSY	1	1	4	10
HEPATITIS A (acute)	209	193	179	277
HEPATITIS B (acute)	42	35	68	54
HEPATITIS B (chronic)	1,176	1,126	1,225	1,084
HEPATITIS C (acute)	4	10	7	0
HEPATITIS C (chronic)	1,913	1,865	1,269	627
HEPATITIS OTHER/UNSPECIFIED	18	29	17	31
KAWASAKI DISEASE	13	14	14	13
LISTERIOSIS	9	6	9	12
MALARIA	12	7	12	14
MEASLES (RUBEOLA)	1	4	2	4
MENINGITIS, TOTAL	258	205	512	234
ASEPTIC MENINGITIS	204	163	455	172
MENINGOCOCCAL INFECTIONS	19	12	22	20
MUMPS	4	2	8	8
NON-GONOCOCCAL URETHRITIS	539	386	478	829
PERTUSSIS	15	34	8	9
PELVIC INFLAMMATORY DISEASE	55	11	52	47
RUBELLA	2	0	0	0
SALMONELLOSIS	290	203	244	362
SHIGELLOSIS	158	125	119	140
STREP, INVASIVE GROUP A	30	29	51	47
SYPHILIS, TOTAL *	189	171	124	163
PRIMARY	4	14	8	2
SECONDARY	22	14	6	4
EARLY LATENT	24	29	6	11
LATENT	5	4	0	8
LATE LATENT	128	106	97	122
CONGENITAL	5	3	7	16
NEUROLOGICAL	1	1	0	0
TUBERCULOSIS	127	154	206	234
TYPHOID FEVER, CASE	2	1	7	2

NA= Not Available

County of Orange Health Care Agency

PUBLIC HEALTH Bulletin

COUNTY OF ORANGE • HEALTH CARE AGENCY

Public Health Bulletin is published by the County of Orange Health Care Agency, Quality Management/Public Information under the direction of:

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Public Health Bulletin provides up-to-date information on public health issues affecting the Orange County medical community. **PHB** welcomes your ideas, comments, and article submissions. Please direct all comments and/or questions to:

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Graphic Design and Layout produced by the HCA Desktop Publishing Unit — a part of Quality Management.

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